The pending claims are reproduced below for ease of reference.

Listing of claims:

[1] (Previously Presented) A PWM drive circuit comprising:

a load driving field-effect transistor;

a through rate control portion for reducing a through rate of a voltage based on a PWM voltage and then feeding the resultant voltage to a gate of the load driving field-effect transistor; and

a gate voltage control portion for stopping an operation of the through rate control portion and pulling up or down a gate potential of the load driving field-effect transistor to a predetermined value upon detecting during a transition period of a gate voltage of the load driving field-effect transistor that an output voltage of the load driving field-effect transistor has almost been inverted and become approximately equal to a value obtained when the load driving field-effect transistor is completely on.

[2] (Previously Presented) The PWM drive circuit of claim 1, wherein as a result of detection of the PWM voltage and the output voltage of the load driving field-effect transistor, only when a value of the PWM voltage is found to be at a level at which the load driving field-effect transistor is turned on and a value of the output voltage of the load driving field-effect transistor is found to be approximately equal to a value obtained when the load driving field-effect transistor is completely on, the gate voltage control portion stops the operation of the through rate control portion and pulls up or down the gate potential of

the load driving field-effect transistor to the predetermined value.

[3] (Previously Presented) A motor drive circuit comprising:

a PWM voltage generation circuit for generating a PWM voltage; and

a PWM drive circuit for driving a motor based on the PWM voltage outputted from the PWM voltage generation circuit, wherein

the PWM drive circuit includes

a load driving field-effect transistor,

a through rate control portion for reducing a through rate of a voltage based on the PWM voltage and then feeding the resultant voltage to a gate of the load driving field-effect transistor, and

a gate voltage control portion for stopping an operation of the through rate control portion and pulling up or down a gate potential of the load driving field-effect transistor to a predetermined value upon detecting during a transition period of a gate voltage of the load driving field-effect transistor that an output voltage of the load driving field-effect transistor has almost been inverted and become approximately equal to a value obtained when the load driving field-effect transistor is completely on.

[4] (Previously Presented) The motor drive circuit of claim 3, wherein as a result of detection of the PWM voltage and the output voltage of the load driving field-effect transistor, only when a value of the PWM voltage is found to be at a level at which the load driving field-effect transistor is turned on and the output voltage of the load driving field-effect transistor is found to be approximately equal to a value obtained when the load driving field-effect transistor is completely on, the gate voltage control portion stops the operation of the through rate control portion and pulls up or down the gate potential of the load driving field-effect transistor to the predetermined value.

[5] (Previously Presented) The motor drive circuit of claim 3, wherein the PWM voltage generation circuit generates the PWM voltage according to a rotor position of the motor.

[6] (Previously Presented) The motor drive circuit of claim 4, wherein the PWM voltage generation circuit generates the PWM voltage according to a rotor position of the motor.

[7] (Previously Presented) A DC-DC converter comprising a PWM drive circuit, wherein the PWM drive circuit includes

a load driving field-effect transistor,

a through rate control portion for reducing a through rate of a voltage based on a PWM voltage and then feeding the resultant voltage to a gate of the load driving field-effect transistor, and

a gate voltage control portion for stopping an operation of the through rate control portion and pulling up or down a gate potential of the load driving field-effect transistor to a predetermined value upon detecting during a transition period of a gate voltage of the load driving field-effect transistor that an output voltage of the load driving field-effect transistor has almost been inverted and become approximately equal to a value obtained when the load driving field-effect transistor is completely on.

[8] (Previously Presented) The DC-DC converter of claim 7, wherein as a result of detection of the PWM voltage and the output voltage of the load driving field-effect transistor, only when a value of the PWM voltage is found to be at a level at which the load driving field-effect transistor is turned on and a value of the output voltage of the load driving field-effect transistor is found to be approximately equal to a value obtained when the load driving field-effect transistor is completely on, the gate voltage control portion stops the operation of the through rate control portion and pulls up or down the gate potential of the load driving field-effect transistor to the predetermined value.